ABSTRACT OF THE DISCLOSURE

A microprocessor package and a method of dissipating heat therefrom have improved thermal performance by utilizing low modulus thermal interface material between the flip chip, central processing unit and a heat spreader in the package. A modulus of elasticity of the thermal interface material in the kPa range is preferably provided by a cured, filled polymer gel which is lightly crosslinked. The gel thermal interface material enables the package to have a post end-of-line and post reliability testing thermal resistance across the thermal interface material between the flip chip and the heat spreader of < 0.45 cm^2 °C/Watt. Mitigation of thin film cracking in die and prevention of interfacial delamination upon temperature cycling are also attained.